

**PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of BRUNENGO

Application No.

Examiner:

Filed: Herewith

Group Art Unit:

For: METHOD FOR THE TREATMENT OF COMBUSTION FLUE GAS

**SUBMISSION OF COPY OF ANNEXES TO INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY**

Mail Stop PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Please find attached a copy of the Annex to the International Preliminary Report on Patentability.

Respectfully submitted,

Dated: 4-26-06



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Docket No. 9526-88

## CLAIMS

1. Method for the damp of the nitrogen oxides contained in combustion flue gas through treatment with gaseous ammonia, in which said gaseous ammonia is generated in situ  
5 by hydrolysis reaction of an aqueous urea solution (L4) and the ammonia generated by said hydrolysis is accumulated in gas state, under pressure, in an accumulator (A5), characterized in that the pressure at which said gaseous ammonia is accumulated is between the pressure at which  
10 said hydrolysis reaction takes place and the pressure at which it is introduced into the combustion flue gas.
2. Method for the damp of the nitrogen oxides contained in combustion flue gas according to claim 1, characterized in that said aqueous urea solution (L3) is preheated in a  
15 heat exchanger (A3) through heat exchange with a hot aqueous hydrolysis solution (L6) generated in said hydrolysis reaction, and in that said aqueous hydrolysis solution, following said heat exchange, is overcooled and then used as recycling solution (R).
- 20 3. Method for the damp of the nitrogen oxides contained in combustion flue gas according to claim 2, characterized in that said recycling solution (R) is fed to a mixer (A1) for the formation, together with a concentrated aqueous urea solution (L1) and/or solid urea, of said aqueous urea  
25 solution (L4).
4. Method for the damp of nitrogen oxides according to claim 1, characterized in that at least 99.8% of said urea in aqueous solution is hydrolyzed under pressure generating gaseous ammonia.

5. Method for the damp of nitrogen oxides according to claim 1, characterized in that the aqueous urea solution subjected to said hydrolysis reaction has a urea content of between 10% and 70% by weight.
- 5 6. Method for the damp of nitrogen oxides according to claim 1, characterized in that the temperature at which said hydrolysis reaction takes place is between 100°C and 240°C.
- 10 7. Method for the damp of nitrogen oxides according to claim 1, characterized in that the pressure at which said hydrolysis reaction takes place is between 500 kPa and 3000 kPa.